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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,694	09/08/2006	Yiqun Lu	NANJ.4625-NY	9053

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EXAMINER	
CHANG, JEFFREY	
ART UNIT	**PAPER NUMBER**
3779	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,694	LU, YIQUN	
	Examiner	Art Unit	
	JEFFREY H. CHANG	3779	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35,36,38-46 and 49-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35,36,38-46 and 49-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendments and arguments, received 1/10/11, have been fully considered by the Examiner. In particular, the amendments overcome the rejection under 35 USC 112, second paragraph set forth in non-final rejection mailed 9/8/10. Claims 35, 36, 38-46, and 49-51 are currently pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **35, 36, 38, 39, 42-46** are rejected under 35 U.S.C. 102(e) as being anticipated by Takizawa et al. (US 2004/0176685) (hereinafter as "Takizawa").

Regarding claim **35**, Figs. 1A-2 of Takizawa disclose a capsule pattern endoscope comprising:

an intelligent capsule (3) comprising: an outer shell having a front cover (22) and a rear cover (i.e. main body 21); a flexible PCB structure (i.e. flexible printed circuit 32, hereinafter as "FPC 32") operatively connected to the outer shell (Fig. 2 shows FPC 32 abutting against transparent cover 22 and main body 21);

an image information acquiring device (i.e. lens 23, lens frame 24, image pick-up element 25 & LEDs 26 form an "image information acquiring device") operatively positioned

relative to the outer shell and comprising: an image sensor (25), operatively positioned on the flexible PCB structure (Fig. 2 shows image pick-up element 25 contacting FPC 32) within the outer shell; and a lens optical system (i.e. lens 23, lens frame 24, and LEDs 26), operatively positioned on the flexible PCB structure (Fig. 2 shows LED 26 contacting FPC 32) within the outer shell and operatively connected to the image sensor (lens frame 24 and lens 23 contact pickup 25);

an image signal processing and transmitting device (i.e. communication circuit 28) operatively positioned on the flexible PCB structure (Fig. 2 shows communication circuit 28 contacting FPC 32) within the outer shell;

a light source (26), operatively positioned on the flexible PCB structure (Fig. 2 shows LED 26 contacting FPC 3) within the outer shell; and

a power source (29), operatively positioned within the outer shell and operatively connected to the flexible PCB structure (see [0134] where power from battery is supplied through FPC) and physically separate from the flexible PCB structure (see Fig. 2 where battery 29 and FPC 32 are "physically separate" because they are two independent structures); and

an image receiving device (i.e. extracorporeal unit 5) operatively positioned relative to the intelligent capsule.

Regarding claims **36**, Fig. 2 of Takizawa discloses antenna structure operatively positioned proximate the rear cover of the outer shell (antenna 33 is within proximity of main body 21).

Regarding claim **38**, Fig. 2 of Takizawa discloses an image compression processor (i.e. processing circuit 27; see [0055]).

Regarding claim **39**, Fig. 2 of Takizawa discloses a microwave transceiver (i.e. communication circuit 28) capable of sending compressed image data (see [0055]).

Regarding claim **42**, Takizawa discloses a CMOS image sensor (see [0133]).

Regarding claim **43**, Fig. 2 of Takizawa discloses that the image compression processor (27) comprises a CPU, DSP or ASIC processor (i.e. CPU 27a).

Regarding claim **44**, Fig. 2 of Takizawa discloses a microwave communication chip (i.e. communication chip 28).

Regarding claim **45**, Figs. 1A-2 of Takizawa disclose an external controller (i.e. extracorporeal unit 5) compatible with a corresponding controller of the intelligent capsule (i.e. processing circuit 27).

Regarding claim **46**, Fig. 14 of Takizawa discloses that the external controller (5) is capable of sending microwave control commands (i.e. electric waves B) to the intelligent capsule so that the controller of the intelligent capsule completes the commands received from the external controller (see [0130]-[0132]). Furthermore, paragraph [0055] discloses that the capsule receives signals transmitted from the extracorporeal unit 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim **40** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 2004/0176685) in view of Gazdzinski (US Pub. No. 2001/0051766 A1).

Regarding claim **40**, it is noted that Takizawa does not disclose an image cutting device as required. However, Gazdzinski discloses image-cutting (i.e. windowing; see [0210]). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the capsule endoscope of Takizawa with image windowing compression as taught by Gazdzinski as windowing results in smaller image sizes which reduces data transmission time and the amount of memory space required to store the image (see, e.g., Gazdzinski [0043]).

7. Claim **41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 2004/0176685) in view of Homan et al. (US 7,195,588) (hereinafter as "Homan").

Regarding claim **41**, it is noted that Takizawa does not disclose image compression rate adjusting as required. However, Homan discloses image compression rate adjusting (see col. 12, lines 27-63). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the capsule endoscope of Takizawa with image compression rate adjustment taught by Homan because variable compression rates allows essential data, i.e. target tissue data, to be stored in high resolution and nonessential data, i.e. other images captured by imager, to be

stored at low resolution so as to simultaneously save storage space, provide high resolution images of target tissue, and increase transmission speed of image data.

8. Claims **49-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 2004/0176685) in view of Ichiro et al. (JP 2001-091860) (hereinafter as "Ichiro").

Regarding claims **49-51**, it is noted that Takizawa does not disclose a cylindrical shaped circuit board. However, Figs. 3-5 of Ichiro disclose a cylindrical shaped circuit board (i.e. flexible antenna 140, 141, when rolled up, is cylindrical-shaped), operatively connected to a power source (antenna is connected to a transceiver, which is connected to a power source) and operatively positioned inside the outer shell (antenna 140, 141 is placed in capsule). It would have been obvious to one having ordinary skill in the art at the time of invention to substitute the box-like antenna of Takizawa (33; Fig. 2) with the cylindrical-shaped antenna taught by Ichiro as the antenna of Ichiro saves space because it lines the interior of the capsule body.

Response to Arguments

9. Applicant's arguments filed 1/10/11 have been fully considered but they are not persuasive. Applicant argues that Takizawa fails to disclose that the power source (i.e. battery 29; see Fig. 2) is "physically separate from the flexible PCB structure" as required by amended independent claim 35. Applicant states that in the instant application, "[t]he power source is placed within the internal capsule 8, physically separated from the PCB, electrically/operatively connected together by lead wires." (See Remarks, page 9, second to last sentence.) Applicant goes on to state that in the instant application, "the power source is physically separate from the

flexible PCB (i.e. not positioned on the PCB)." (See Remarks, page 10, first sentence.) The Examiner respectfully disagrees with Applicant's arguments.

10. First, the Examiner believes that Fig. 2 of Takizawa discloses that battery 29 and flexible printed circuit board (FPC) 32 are "physically separate" because they are independent structures. Paragraph [0032] of Takizawa discloses that the FPC is "connected to" the battery, meaning FPC and battery are independent structures. In other words, battery 29 and FCP 32 are not integrated. An example of an integrated battery and FCP would be where battery 29 and FCP 32 are used as the same structure, such as if a circuit board were integrated into the battery.

11. Second, the Examiner disagrees with the Applicant that "physically separate" means "not positioned on" (see Remarks, page 10, first sentence). As explained in the immediately preceding paragraph, two structures being "physically separate" may also mean that the two structures are independent structures.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY H. CHANG whose telephone number is (571) 270-5336. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas J. Sweet can be reached on (571) 272-4761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. H. C./
Examiner, Art Unit 3779

/John P Leubecker/
Primary Examiner, AU 3779